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Storage of Chromosome Preparations for FISH

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The quality of stored chromosome preparations varies considerably from one case to another. In some cases, good preparations can be obtained from cells stored in fixative, while in other cases, the quality of the chromosome spreads obtained from cell pellets is poor. It is therefore recommended that specimens harvested for chromosome preparations that are to be used for FISH and SKY be stored both as cell pellets and as slide preparations.

Cell Pellet

1. Transfer cell pellet to 1.5-2 ml screw-top cryo-vials. Fill to top with fixative and store at –20˚C or –80˚C. Since there is evidence that prolonged exposure to acid fixative may cause extraction, first of RNA and then of DNA (Pearse, 1968), it may be preferable to store the cells in absolute alcohol rather than in fixative.

2. To prevent evaporation of fixative and ethanol over time, wrap the top of the tube with parafilm. It is a good idea to periodically check the tubes for evaporation: if the volume of solution has decreased, top off with fresh fixative or ethanol.

Chromosome Slide Preparation

There are several methods in use for the storage of slides:

1. Dehydrate slides in ethanol series (70%, 90%, and 100% ethanol, 3 min each), transfer to slide box, and place box in heat sealable pouch (e.g., Kapak/Scotchpak) with a small amount of drierite. Seal pouch with heat and store at –20˚C or –80˚C.

2. Store slides in a slide box containing small amount of drierite at –20˚C.

3. Store slides in absolute ethanol at –20˚C.

4. Store slides in a slide box at –20˚C.

5. After dropping slides at optimum humidity, transfer them to a slide box and store at 40˚C in a drying oven without CO_2.

Reference

Pearse AGE, *Histochemistry, Theoretical and Applied*, Third Edition. Little, Brown & Company, Boston, 1968, pp. 93-94.